SEQ ID NO	Sequence
1	Ac-HSDAVFTDQYTRLRKQVAAKKYLQSIKQKRY
2	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKRY
3	Ac-HSDAVFTDQYTRLRKQVAAKKYLQSIKQK
4	Ac-HTEAVFTDQYTRLRKQVAAKKYLQSIKQKRY
5	Ac-HSDAVFTDQYTRLRKQLAVKKYLQDIKQGGT
6	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKR
7	Ac-HSDAVFTDQYTRLRKQLAAKKYLQTIKQKRY
8	Ac-HSDAVFTDQYTRLRKQMAAKKYLQTIKQKRY
9	Ac-HSDAVFTDQYTRLRKQMAAHKYLQSIKQKRY
10	Ac-HSDAVFTDQYTRLRKQMAAKHYLQSIKQKRY
11	Ac-HSDAVFTDQYTRLRKQMAGKKYLQSIKQKR
12	Ac-HSDAVFTDQYTRLRKQMAKKKYLQSIKQKR
13	Ac-HSDAVFTDQYTRLRKQMARKKYLQSIKQKR
14	Ac-HSDAVFTDQYTRLRKQMASKKYLQSIKQKR
15	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIPQKR
16	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIQQKR
17	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIRQKR
18	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQRR
19	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKA
20	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKF
21	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKH
22	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKI
23	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKK
24	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKL
25	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKM
26	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKP
27	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKQ
28	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKS
29	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKT
30	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKV
31	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKW
32	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKY
33	Ac-HSDAVFTDQYTRLRKQMAGKKYLQSIKQRI
34	Ac-HSDAVFTDQYTRLRKQMAKKKYLQSIKQRI
35	Ac-HSDAVFTDQYTRLRKQMASKKYLQSIKQRI
36	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIPQRI
37	Ac-HSDAVFTDQYTRLRKQMASKKYLQSIRQRI

FIG. 1a

SEQ ID NO	Sequence
38	Ac-HSDAVFTDNYTRLRKQVAAKKYLQSIKQKRY
39	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKRY
40	Ac-HSDAVFTDNYTRLRKQVAAKKYLQSIKQK
41	Ac-HTEAVFTDNYTRLRKQVAAKKYLQSIKQKRY
42	Ac-HSDAVFTDNYTRLRKQLAVKKYLQDIKQGGT
43	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKR
44	Ac-HSDAVFTDNYTRLRKQLAAKKYLQTIKQKRY
45	Ac-HSDAVFTDNYTRLRKQMAAKKYLQTIKQKRY
46	Ac-HSDAVFTDNYTRLRKQMAAHKYLQSIKQKRY
47	Ac-HSDAVFTDNYTRLRKQMAAKHYLQSIKQKRY
48	Ac-HSDAVFTDNYTRLRKQMAGKKYLQSIKQKR
49	Ac-HSDAVFTDNYTRLRKQMAKKKYLQSIKQKR
50	Ac-HSDAVFTDNYTRLRKQMARKKYLQSIKQKR
51	Ac-HSDAVFTDNYTRLRKQMASKKYLQSIKQKR
52	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIPQKR
53	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIQQKR
54	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIRQKR
55	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQRR
56	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKA
57	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKF
58	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKH
59	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKI
60	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKK
61	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKL
62	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKM
63	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKP
64	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKQ
65	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKS
66	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKT
67	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKV
68	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKW
69	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIKQKY
70	Ac-HSDAVFTDNYTRLRKQMAGKKYLQSIKQRI
71	Ac-HSDAVFTDNYTRLRKQMAKKKYLQSIKQRI
72	Ac-HSDAVFTDNYTRLRKQMASKKYLQSIKQRI
73	Ac-HSDAVFTDNYTRLRKQMAAKKYLQSIPQRI
74	Ac-HSDAVFTDNYTRLRKQMASKKYLQSIRQRI

FIG. 1b

SEQ ID NO	Sequence
75	Ac-HSDAVFTDQYTRLRKQVAAKKYLQSIKNKRY
76	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKRY
77	Ac-HSDAVFTDQYTRLRKQVAAKKYLQSIKNK
79	Ac-HTEAVFTDQYTRLRKQVAAKKYLQSIKNKRY
80	Ac-HSDAVFTDQYTRLRKQLAVKKYLQDIKNGGT
81	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKR
82	Ac-HSDAVFTDQYTRLRKQLAAKKYLQTIKNKRY
83	Ac-HSDAVFTDQYTRLRKQMAAKKYLQTIKNKRY
84	Ac-HSDAVFTDQYTRLRKQMAAHKYLQSIKNKRY
85	Ac-HSDAVFTDQYTRLRKQMAAKHYLQSIKNKRY
86	Ac-HSDAVFTDQYTRLRKQMAGKKYLQSIKNKR
87	Ac-HSDAVFTDQYTRLRKQMAKKKYLQSIKNKR
88	Ac-HSDAVFTDQYTRLRKQMARKKYLQSIKNKR
89	Ac-HSDAVFTDQYTRLRKQMASKKYLQSIKNKR
90	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIPNKR
91	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIQNKR
92	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIRNKR
93	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNRR
94	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKA
95	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKF
96	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKH
97	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKI
98	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKK
99	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKL
100	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKM
101	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKP
102	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKQ
103	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKS
104	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKT
105	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKV
106	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKW
107	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKNKY
108	Ac-HSDAVFTDQYTRLRKQMAGKKYLQSIKNRI
109	Ac-HSDAVFTDQYTRLRKQMAKKKYLQSIKNRI
110	Ac-HSDAVFTDQYTRLRKQMASKKYLQSIKNRI
111	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIPNRI
112	Ac-HSDAVFTDQYTRLRKQMASKKYLQSIRNRI

FIG. 1c

SEQ ID NO	Sequence
113	Ac-HSDAVFTDQYTRLRKQVAAKKYLQSIKQKRYC-PEG
114	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKRYC-PEG
115	Ac-HSDAVFTDQYTRLRKQVAAKKYLQSIKQKC-PEG
116	Ac-HTEAVFTDQYTRLRKQVAAKKYLQSIKQKRYC-PEG
117	Ac-HSDAVFTDQYTRLRKQLAVKKYLQDIKQGGTC-PEG
118	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKRC-PEG
119	Ac-HSDAVFTDQYTRLRKQLAAKKYLQTIKQKRYC-PEG
120	Ac-HSDAVFTDQYTRLRKQMAAKKYLQTIKQKRYC-PEG
121	Ac-HSDAVFTDQYTRLRKQMAAHKYLQSIKQKRYC-PEG
122	Ac-HSDAVFTDQYTRLRKQMAAKHYLQSIKQKRYC-PEG
123	Ac-HSDAVFTDQYTRLRKQMAGKKYLQSIKQKRC-PEG
124	Ac-HSDAVFTDQYTRLRKQMAKKKYLQSIKQKRC-PEG
125	Ac-HSDAVFTDQYTRLRKQMARKKYLQSIKQKRC-PEG
126	Ac-HSDAVFTDQYTRLRKQMASKKYLQSIKQKRC-PEG
127	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIPQKRC-PEG
128	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIQQKRC-PEG
129	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIRQKRC-PEG
130	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQRRC-PEG
131	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKAC-PEG
132	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKFC-PEG
133	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKHC-PEG
134	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKIC-PEG
135	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKKC-PEG
136	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKLC-PEG
137	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKMC-PEG
138	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKPC-PEG
139	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKQC-PEG
140	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKSC-PEG
141	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKTC-PEG
142	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKVC-PEG
143	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKWC-PEG
144	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIKQKYC-PEG
145	Ac-HSDAVFTDQYTRLRKQMAGKKYLQSIKQRIC-PEG
146	Ac-HSDAVFTDQYTRLRKQMAKKKYLQSIKQRIC-PEG
147	Ac-HSDAVFTDQYTRLRKQMASKKYLQSIKQRIC-PEG
148	Ac-HSDAVFTDQYTRLRKQMAAKKYLQSIPQRIC-PEG
149	Ac-HSDAVFTDQYTRLRKQMASKKYLQSIRQRIC-PEG

FIG. 1d

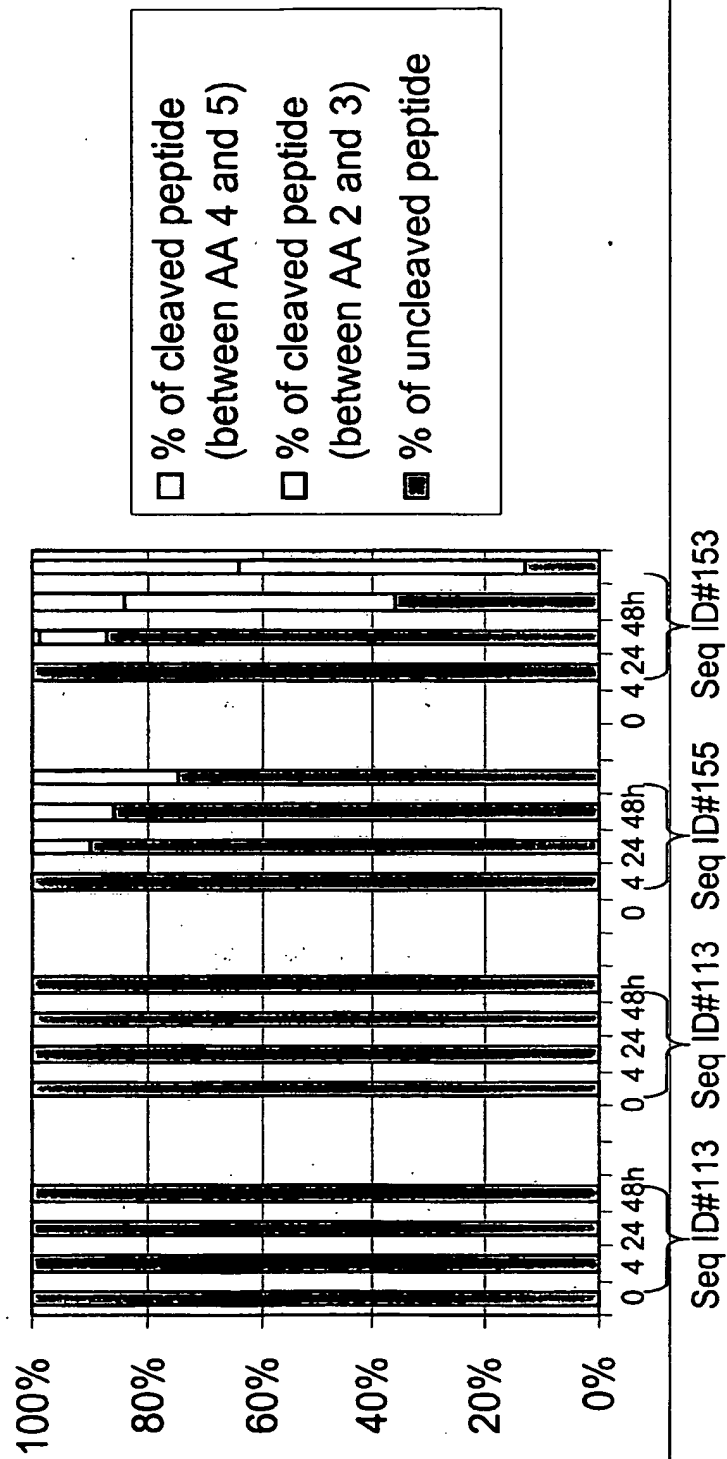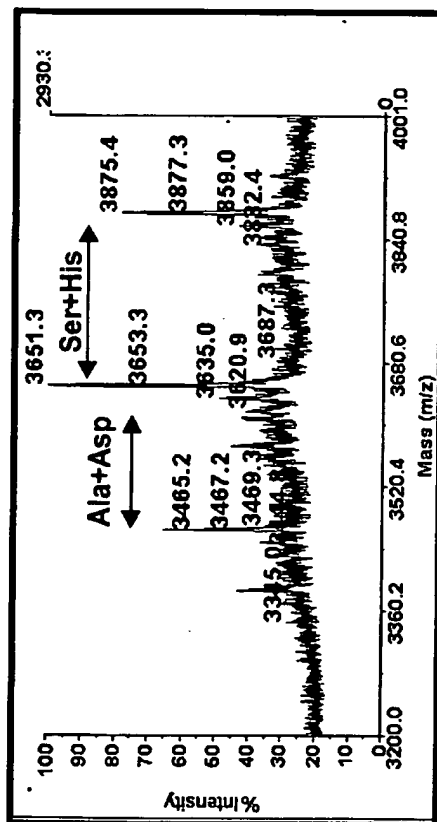| SEQ ID NO	Sequence
150	HSDGIFTDSYSRYRKQMAVKKYLAAVLGKRYKQRVKNK
151	HSDGIFTDSYSRYRKQMAVKKYLAAVL
152	HSDAVFTDNYTRLRKQMAVKKYLNSILN
153	HSDAVFTDQYTRLRKQVAAKKYLQSIKQKRY
154	Ac-HTDAVFTDQYTRLRKQVAAKKYLQSIKQKRY
155	HSDAVFTDQYTRLRKQVAAKKYLQSIKQKRYC-PEG
156	Ac-HTDAVFTDQYTRLRKQVAAKKYLQSIKQKRYC-PEG

FIG. 1e

Figure 2a

SEQ ID #153 is
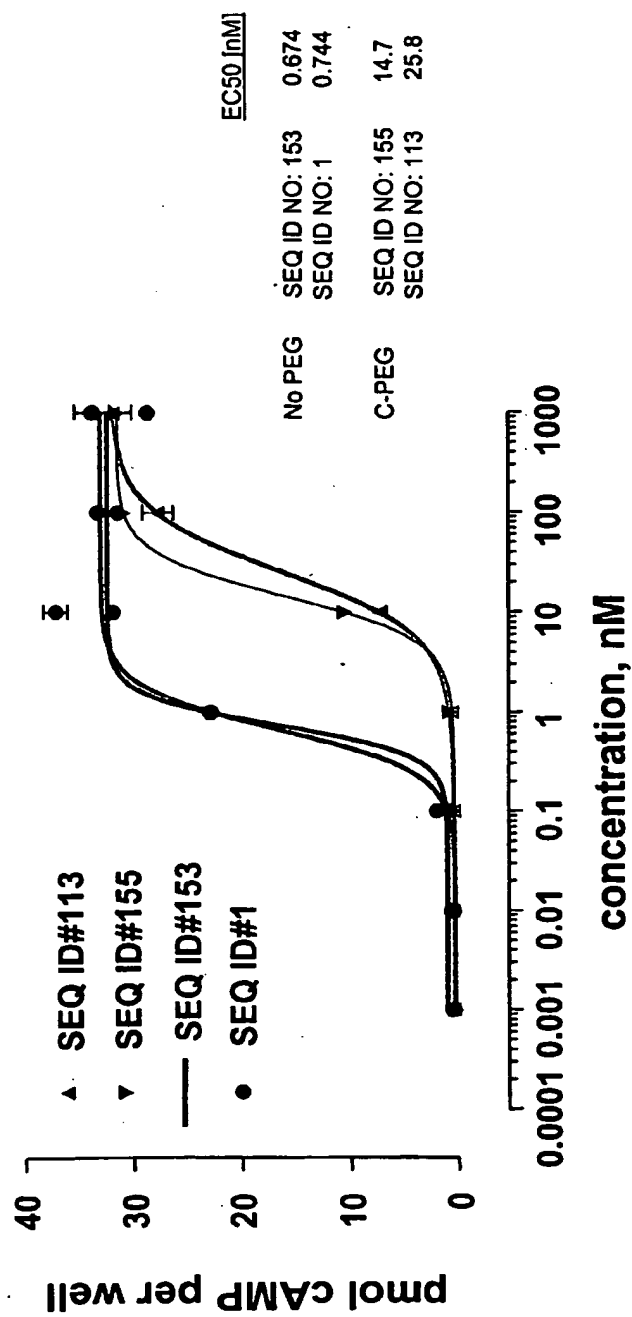cleaved by DPPIV.
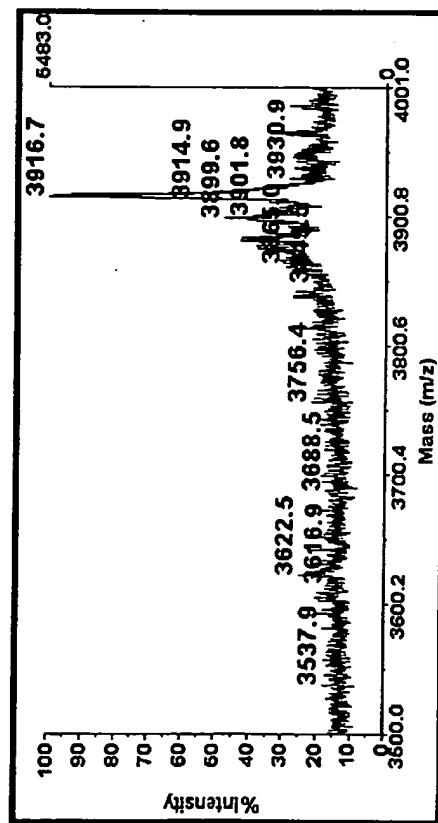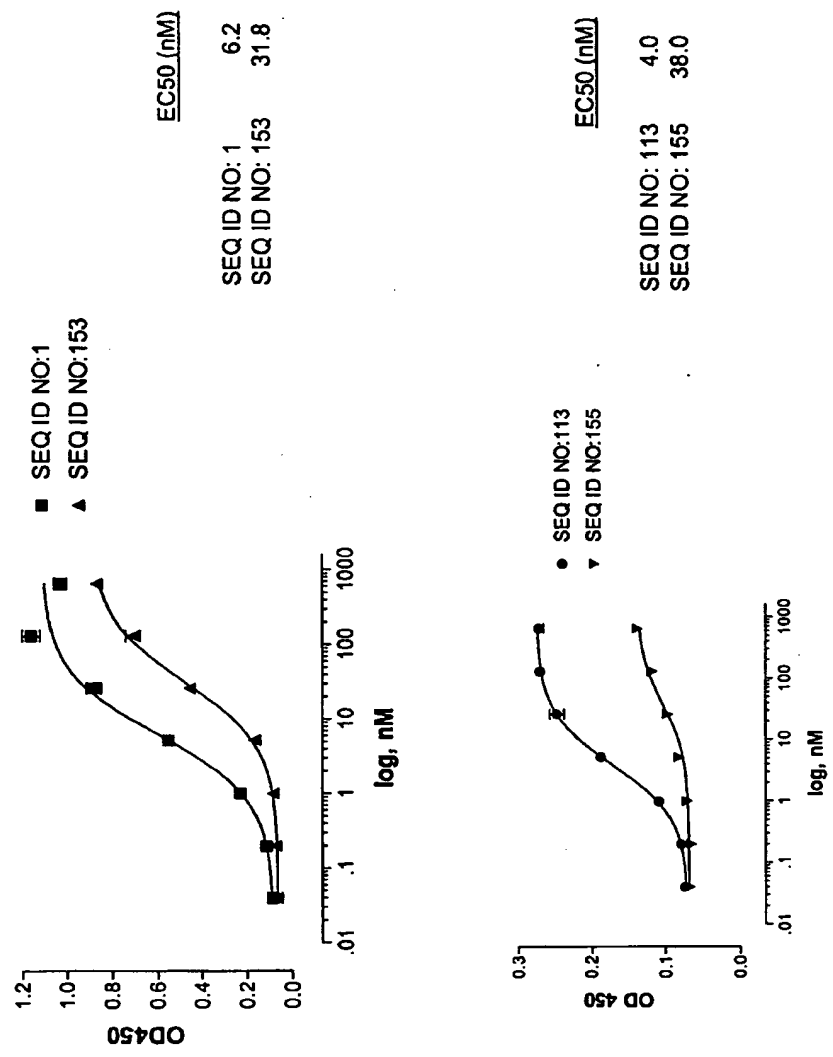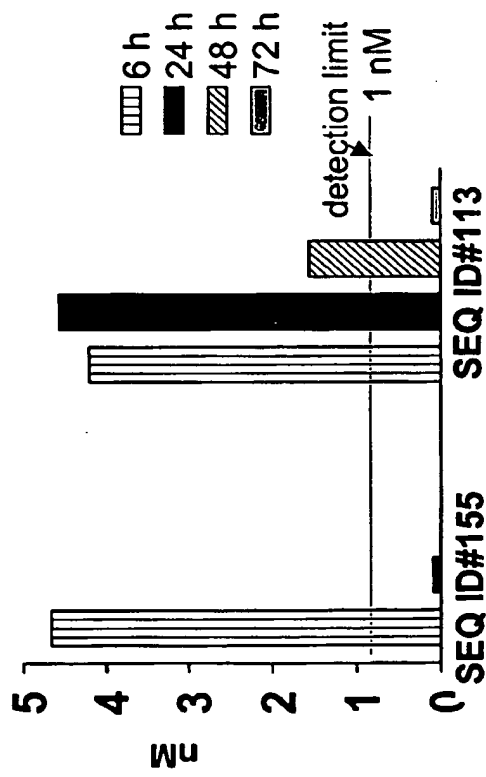
SEQ ID#1 is not
cleaved
by DPPIV.

Figure 2b

Figure 3

Figure 4

6 h
24 h
48 h
72 h

detection limit
1 nM

nM

5
4
3
2
1
0

SEQ ID#155   SEQ ID#113

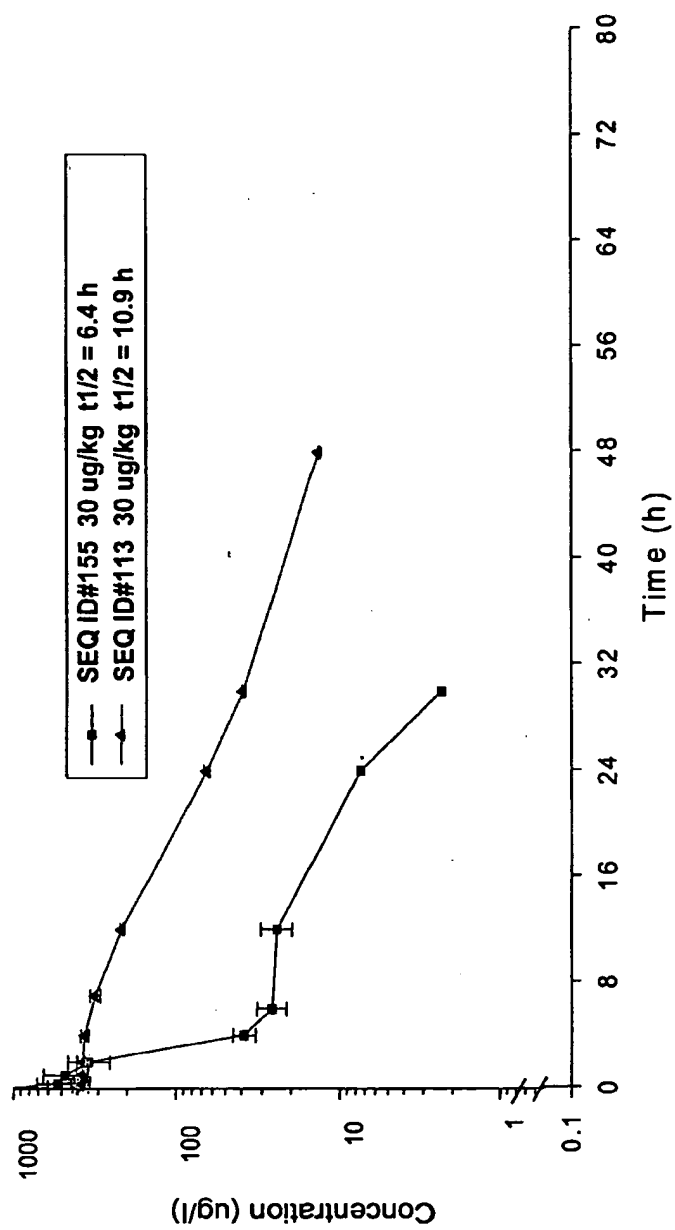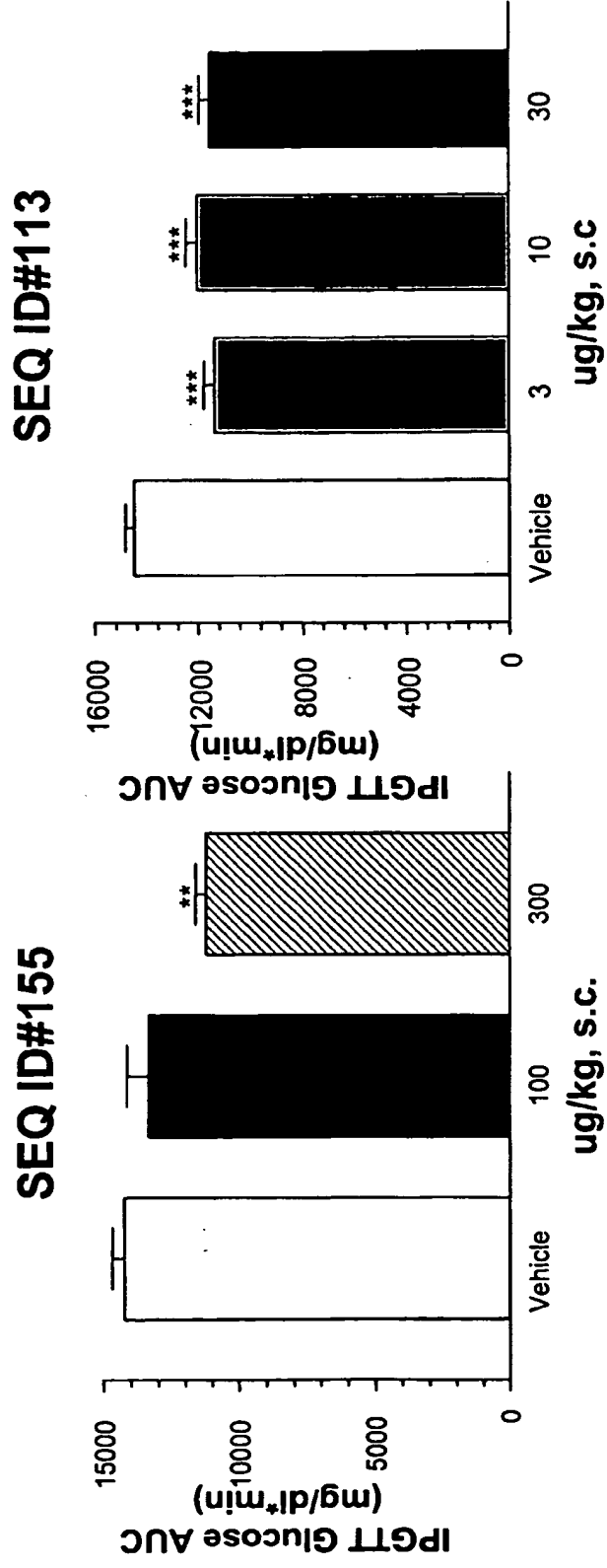|	6 hrs.	24 hrs.	48 hrs.	72 hrs.
SEQ ID#155	4.66±0.43	<1	<1	<1
SEQ ID#113	4.21±0.25	4.57±0.37	1.56±0.12	<1

Figure 5a

Figure 5b
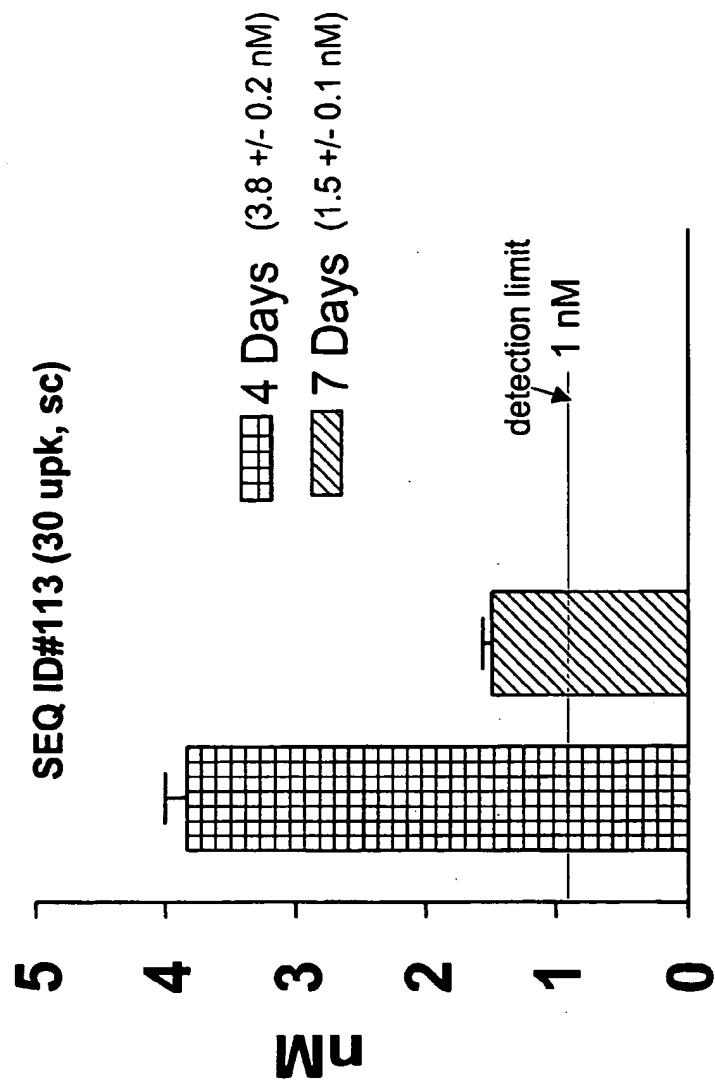
Figure 5c

Figure 6a

Figure 6b

41 hrs

IPGTT Glucose AUC (mg/dl*min)

Vehicle   30 µg/kg SEQ ID #113

17.1% dec ****

65 hrs

IPGTT Glucose AUC (mg/dl*min)

Vehicle   30 µg/kg SEQ ID #113

14.5% dec **
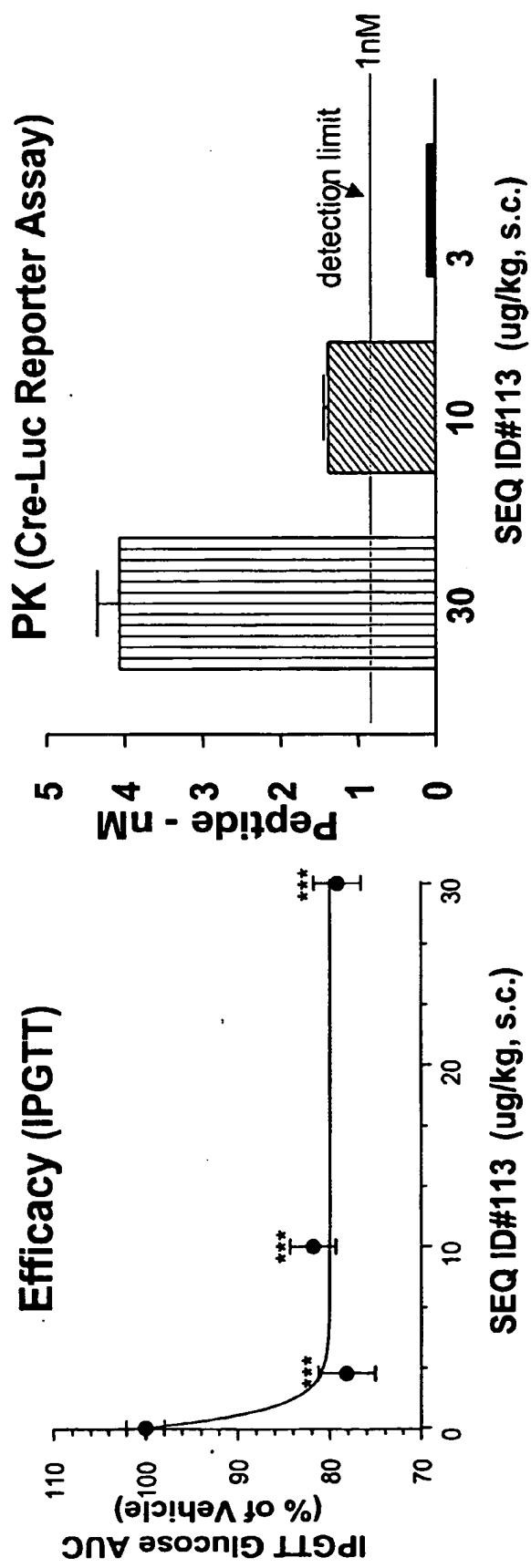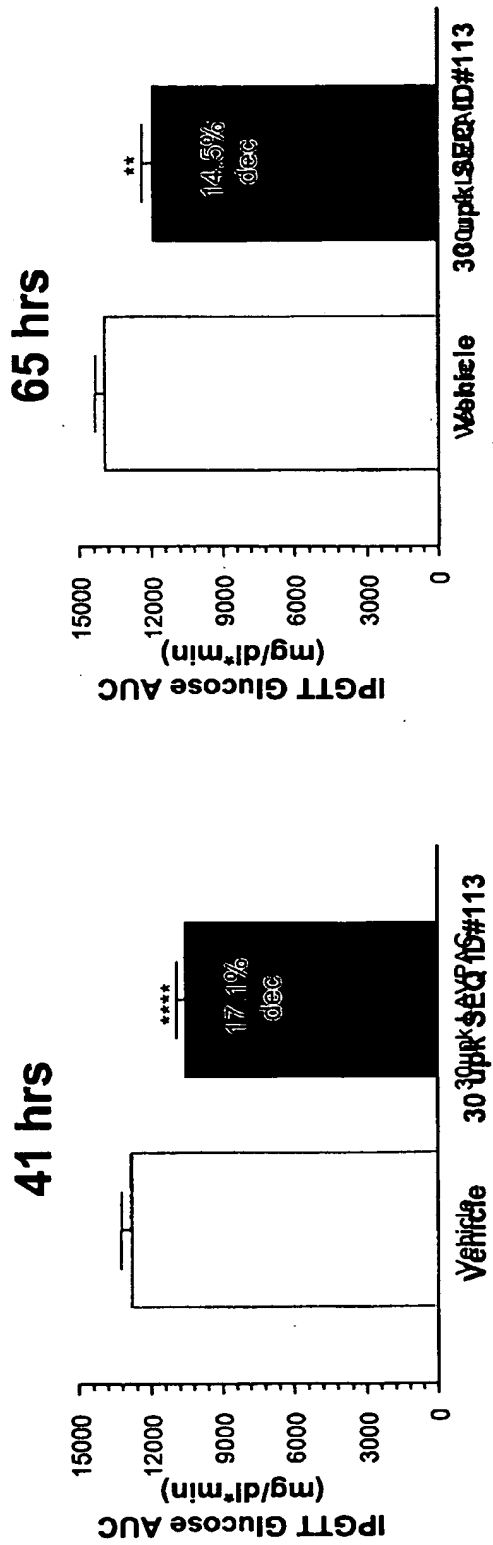
	24 hrs.	41 hrs.	65 hrs.
SEQ ID#113	20±3*	17±2*	14.5±3*

Figure 6c